

What is claimed is:

1           1.    A node supporting message transport and segmentation in a  
2    communications network having a plurality of nodes, comprising:

3           a memory including a database for storing a plurality of segmentation support  
4    capability test results, wherein the memory further includes a program module adapted  
5    to send a first segmented message, a first segmentation support test message, and a first  
6    segmentation support response message, and to receive a second segmented message,  
7    a second segmentation support test message, and a second segmentation support  
8    response message.

1           2.    The node of Claim 1, wherein the node is selected from the group  
2    consisting of a service switching point, a signal transfer point, or a service control  
3    point.

1           3.    The node of Claim 1, wherein the second segmented message is a  
2    Signaling Connection Control Part (SCCP) message including a Segment Number  
3    Field coded with a value indicating the number of segmented messages remaining to  
4    be received by the node.

1           4.    The node of Claim 1, wherein the segmentation support test and  
2    response messages are Transaction Capability Application Part (TCAP) messages.

1           5.     A system supporting message transport and segmentation in a  
2     communications network having a plurality of nodes, comprising:

3                 a first node having a memory including a database for storing a plurality of  
4     segmentation support capability test results, wherein the first node is adapted to send  
5     a segmented message and a segmentation support test message, and to receive a  
6     segmentation support response message; and

7                 a second node in electronic communication with the first node, wherein the  
8     second node is adapted to receive the segmented message and the segmentation support  
9     test message, and to send the segmentation support response message.

1           6.     The system of Claim 5, wherein the first node and second nodes are  
2     each selected from the group consisting of a service switching point, a signal transfer  
3     point, or a service control point.

1           7.     The system of Claim 5, wherein the segmented message is a Signaling  
2     Connection Control Part (SCCP) message including a Segment Number Field coded  
3     with a value indicating the number of segmented messages remaining to be received  
4     by the second node.

1           8.     The system of Claim 7, wherein the segmentation support test and  
2     response messages are Transaction Capability Application Part (TCAP) messages.

1           9.     A method supporting message transport and segmentation in a  
2     communications network having a plurality of nodes, comprising the steps of::  
3             sending a first segmentation support test message from a first node to a second  
4     node, the first and second nodes selected from the plurality of nodes, the first node  
5     comprising a memory including a database for storing a plurality of segmentation  
6     support capability test results;  
7             sending a first segmentation support response message from the second node  
8     to the first node in response to receiving the first segmentation support test message;  
9             generating a first segmentation support capability test result indicating that the  
10    second node is capable of receiving segmented messages; and  
11            sending a segmented message from the first node to the second node.

1           10.    The method of Claim 9, including the step of recording the first  
2     segmentation support capability test result in the database.

1           11.    The method of Claim 9, including the step of searching the database to  
2     determine whether the second node is capable of receiving segmented messages.

1           12.    The method of Claim 9, including the steps of:  
2                sending a second segmentation support test message from the first node to a  
3                third node, the third node selected from the plurality of nodes;  
4                failing to receive a second segmentation support response message sent from  
5                the third node to the first node in response to the second segmentation support test  
6                message;  
7                generating a second segmentation support capability test result indicating that  
8                the third node is not capable of receiving segmented messages; and  
9                sending a non-segmented message from the first node to the third node.

1           13.    The method of Claim 12, including the step of recording the second  
2                segmentation support capability test result in the database.

1           14.    The method of Claim 9, wherein the first node and second nodes are  
2                each selected from the group consisting of a service switching point, a signal transfer  
3                point, or a service control point.

1           15.    The method of Claim 9, wherein the segmented message is a Signaling  
2                Connection Control Part (SCCP) message including a Segment Number field coded  
3                with a value indicating the number of segmented messages remaining to be received  
4                by the second node.

1           16.    The method of Claim 9, wherein the first segmentation support test and  
2                response messages are Transaction Capability Application Part (TCAP) messages.

1           17.    The method of Claim 9, wherein the first node includes a segmentation  
2    capability return result message reception timer, including the steps of:

3            sending a second segmentation support test message from the first node to a  
4    third node, the third node selected from the plurality of nodes;

5            starting the segmentation capability return result message reception timer  
6    counting down to a zero value over a preselected amount of time;

7            failing to receive a second segmentation support response message sent from  
8    the third node to the first node in response to the second segmentation support test  
9    message before the segmentation capability return result message reception timer  
10   reaches the zero value;

11           generating a second support capability test result indicating that the second  
12   node is not capable of receiving segmented messages; and

13           sending a non-segmented message from the first node to the third node.

1           18.    The method of Claim 17, including the step of recording in the second  
2    support capability test result in the database.

1           19.    The method of Claim 17, including the step of searching the database  
2    to determine whether the second node is capable of receiving segmented messages.